

**REMARKS/ARGUMENTS**

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1, 4, 6, 8-14 and 20-22 are presently pending in this application, Claims 11-14 having been withdrawn from further consideration by the Examiner, Claim 7 having been canceled, and Claim 1 having been amended by the present amendment.

In the outstanding Office Action, Claims 1, 4, 6-10 and 20-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over DE 19532229 (hereinafter "DE '229") or JP 03-227489 (hereinafter "JP '489").

Claim 1 has been amended herein. This amendment finds support in the specification and/or claims as originally filed, for example, Claim 7 as previously presented, and no new matter is believed to be added thereby. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work in a joint effort to derive mutually satisfactory claim language.

It is respectfully submitted that neither DE '229 nor JP '489 teaches or suggests "a copolymer of a monomer mixture containing a vinylic monomer (A) having a hydroxyl group and an amido bond, and a vinylic monomer (B) having a cationic group, wherein the vinylic monomer (A) is represented by a formula,  $\text{CH}_2=\text{C}(\text{R}^1)-\text{CO}-\text{NR}^2-(\text{CH}_2)_a-\text{OH}$ , where  $\text{R}^1$  represents a hydrogen atom or a methyl group,  $\text{R}^2$  represents a hydrogen atom, or an alkyl group or a hydroxyalkyl group having 1 to 4 carbon atoms,  $a$  is 2, and the vinylic monomer (B) is represented by a formula,  $\text{CH}_2=\text{C}(\text{R}^3)-\text{CO}(\text{O})_b-(\text{NH})_{1-b}-(\text{CH}_2)_c-\text{N}^+\text{R}^4\text{R}^5\text{R}^6\cdot\text{X}^-$ , where  $\text{R}^3$  represents a hydrogen atom or a methyl group,  $\text{R}^4$  and  $\text{R}^5$  each independently represent an alkyl group or an aryl group or an aralkyl group having 1 to 24 carbon atoms,  $\text{R}^6$  represents a hydrogen atom, an alkyl group or an aryl group or an aralkyl group having 1 to 24 carbon atoms, or  $\text{CH}_2-\text{CH}(\text{OH})-\text{CH}_2-\text{N}^+\text{R}^7\text{R}^8\text{R}^9\cdot\text{Y}^-$ ,  $\text{R}^7$  to  $\text{R}^9$  each independently represent an alkyl

group or an aryl group or an alkyl group having 1 to 24 carbon atoms,  $X^-$  and  $Y^-$  each independently represent an anion, b represents 0 or 1, and c represents an integer from 1 to 10, and the monomer mixture contains 20 to 90% by weight of the vinylic monomer (A) and 10 to 80% by weight of the vinylic monomer (B)” as recited in amended Claim 1.

Referring to Tables 3 and 4 in Applicants’ specification, Examples 1-5 (the monomer mixtures containing the vinylic monomer (A) and the vinylic monomer (B) within the claimed ranges) exhibit superior overall properties compared to Examples 6 and 7 (the monomer mixtures containing the vinylic monomer (A) and the vinylic monomer (B) outside the claimed ranges).<sup>1</sup> More specifically, the monomer mixtures of Examples 1-5 exhibit higher adsorption amount of silicone oil on hairs than the monomer mixtures of Examples 6 and 7.<sup>2</sup> Furthermore, in Tables 3 and 4, the monomer mixtures of Examples 1-5 consistently show overall better scores in lathering, smooth feel in rinsing, silky feel after dried and softness after dried, as compared to the monomer mixtures of Examples 6 and 7.<sup>3</sup>

Although the Office Action states that JP ‘489 describes N-methylol(meth)acrylamide (NMAA), this reactive monomer is used in the range of from 0.001 mol% to 20 mol% in the water-soluble polymer.<sup>4</sup> And according to JP ‘489, this specific range is important because when the amount of the vinyl monomer component is less than 0.001 mol%, paper strength is not very effective, and when the amount of the vinyl monomer is more than 20 mol%, excessive cross-linking reaction of the water soluble polymer itself or the reactive vinyl monomer with another vinyl monomer (a vinyl monomer which indispensably comprises a (meth) acrylamide) in the presence of a water-soluble polymer occurs, thereby turning the paper strength agent into gel.<sup>5</sup> In fact, in Example 2 of JP ‘489, 225 parts by weight of acrylic

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<sup>1</sup> The specification, pages 31-32.

<sup>2</sup> Id., page 32.

<sup>3</sup> Id.

<sup>4</sup> See, for example, JP ‘489, page 3, the upper right column.

<sup>5</sup> See id.

acid and 20 parts by weight of N-methylol acrylamide are used, meaning that the content of N-methylol acrylamide is only 7% by weight. As discussed in the previous response, JP '489 is directed to a papermaking additive and describes that the variation in the paper-strengthening effect is reduced with respect to a variation in the papermaking pH and that a variation in the paper-making strengthening effect is small with respect to the dissolved constituents in the pulp slurry. Therefore, the subject matter recited in Claim 1 is clearly distinguishable from what is described in JP '489.

DE '229 is directed to a water-soluble polymer dispersion and simply lists a broad spectrum of monomers which may be used as material for that polymer. And DE '229 does not provide suggestion for selecting the combination of the vinylic monomer (A) and the vinylic monomer (B) as recited in Claim 1. In addition, DE '229 fails to disclose that "the monomer mixture contains 20 to 90% by weight of the vinylic monomer (A) and 10 to 80% by weight of the vinylic monomer (B)" as recited in amended Claim 1. Nor does DE '229 describe or suggest the advantages and effects attributable to such amount ratios of the mixture explained above. It is also pointed out that the claimed invention is in a field distinct from that of DE '229, *i.e.*, DE '229 describes a water-soluble polymer dispersion as discussed above.

Therefore, the structure recited in amended Claim 1 is clearly distinguishable from DE '229 and JP '489, and based on the discussions presented above, it is respectfully submitted that these references do not disclose the structure as recited in amended Claim 1 and that their teachings even combined would not render the water-soluble resin of Claim 1 obvious.

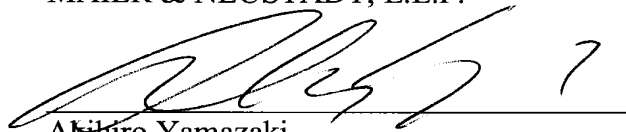
For the foregoing reasons, Claim 1 is believed to be allowable. Furthermore, since Claims 4, 6, 8-14 and 20-22 depend directly or indirectly from Claim 1, substantially the

same arguments set forth above also apply to these dependent claims. Hence, Claims 4, 6, 8-14 and 20-22 are believed to be allowable as well.

In view of the amendments and discussions presented above, Applicants respectfully submit that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, L.L.P.

A handwritten signature in black ink, appearing to read 'Akihiro Yamazaki', is written over a horizontal line. To the right of the signature is a small handwritten number '7'.

Akihiro Yamazaki  
Attorney of Record  
Registration No. 46,155

Customer Number  
**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 07/09)